



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,149	10/15/2003	Paul M. Crafton	C152 1131.1	6178
7590 04/20/2005 WOMBLE CARLYLE SANDRIDGE & RICE P.O. Box 7037 Atlanta, GA 30357-0037			EXAMINER RINEHART, KENNETH	
			ART UNIT 3749	PAPER NUMBER

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

mw

Office Action Summary	Application No. 10/686,149	Applicant(s) CRAFTON ET AL.	
	Examiner Kenneth B Rinehart	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-28 and 30-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-28,30-32,34 and 35 is/are rejected.
- 7) ☒ Claim(s) 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/19/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

The information disclosure statement filed 1/19/05 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. There are no copies of JP 10-122541, AND JP9-290234.

The information disclosure statement filed 1/19/05 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered. There is no statement of relevance concerning DE8601942.

Specification

The amendment filed 1/19/05 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Figure 5.

Art Unit: 3749

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 30 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 30 refers to “wherein diverting a the third portion of the fly ash to the first combustion unit occurs before completion of combusting of the second portion of the fly ash in the second combustion unit which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5, 13, 14, 19-22, 25, 26, 31, 32, 34, 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramme et al (5992336). Ramme et al shows a fly ash feed source line (53, fig. 1); a diverter in flow communication with said feed line (54, fig. 1), said diverter

Art Unit: 3749

including a first outlet in flow communication with a first combustion unit (left 57, fig. 1), and a second outlet in flow communication with a second combustion unit (right 57, fig. 1): and a collection vessel in flow communication with said first combustion unit and said second combustion unit (bottom of figure 2), said feed line is in flow communication with a feed vessel (fig. 4), a collection line in flow communication with said first combustion unit, said second combustion unit and said collection vessel (below funnel, fig. 2), a feed vessel having an inlet in flow communication with a fly ash supply (45, fig. 4), a diverter in flow communication with an outlet of said feed vessel (54, fig. 4), a first combustion unit in flow communication with a first outlet of said diverter (left 57, fig. 4); and a second combustion unit in flow communication with a second outlet of said diverter (right 57, fig. 4), a collection unit in flow communication with said first combustion unit and said second combustion unit (below funnel, fig. 2), feeding fly ash to a diverter (53, fig. 4); diverting a first portion of the fly ash from the diverter to a first combustion unit (left 57, fig. 4), diverting a second portion of the fly ash from the diverter to a second combustion unit (right 57, fig. 4), combusting the first portion of fly ash in the first combustion unit, thereby reducing the carbon content of the first portion of fly ash (fig. 4) and combusting the second portion of the fly ash in the second combustion unit thereby reducing the carbon content of the second portion of fly ash (fig. 4, col. 4, lines 57-59), collecting combusted fly ash from the first and the second combustion units (below funnel, fig. 2), collecting the fly ash prior to diverting a first portion of the fly ash to the first combustion unit (45, fig 4), collecting the fly ash prior to diverting the second portion of the fly ash to the second combustion unit (45, fig. 4), combusting the first portion of fly ash comprises reducing the carbon content of the fly ash to up to about 2% by weight (col. 4, lines 57-59), wherein feeding

Art Unit: 3749

fly ash to the diverter is substantially continuous (fig. 4), diverting a first batch of fly ash to a first processing unit (54, left most 57., fig. 4), processing the first batch of fly ash in the first processing unit (fig. 4); diverting a second batch of fly ash to a second processing unit (right most 57, fig. 4), processing the second batch of fly ash in the second processing unit (fig. 4); and collecting the first and second processed batches of fly ash (below funnel, fig. 2), wherein the first processing unit and the second processing unit independently include at least a combustion unit (fig. 4), collecting the fly ash prior to diverting the first batch of fly ash (45, fig. 4), processing the first batch of fly ash comprises combusting the fly ash (fig. 4), diverting the first and second batches of fly ash is substantially continuous (fig. 4).

Claims 1, 3, 5, 7-10, 12-14, 16, 17, 19-24, 26, 31, 32, 34, 35 are rejected under 35 U.S.C. 102(b) as being anticipated by S58-85011. S58-85011 shows a fly ash feed source line (23, fig. 3); a diverter in flow communication with said feed line (33, fig. 3), said diverter including a first outlet in flow communication with a first combustion unit (34, fig. 3), and a second outlet in flow communication with a second combustion unit (35, fig. 3); and a collection vessel in flow communication with said first combustion unit and said second combustion unit (37, 36, fig. 3), said feed line is in flow communication with a feed vessel (22, fig. 3), a collection line in flow communication with said first combustion unit, said second combustion unit and said collection vessel (28, fig. 3), said first combustion unit comprises a circulating fluid bed combustor (fig. 3), said circulating fluid bed combustor further comprises a separator having an inlet in flow communication with an outlet of a reactor (30, fig. 3), said circulating fluid comprises an accumulator in flow communication an outlet of said separator and with an inlet of said reactor (31, fig. 3), wherein said circulating fluid bed combustor comprises a fluidized bed

Art Unit: 3749

disposed in said reactor and a heat source operably connected to said reactor (1, 24, fig. 1), said second combustion unit comprises a second circulating fluid bed combustor (2, fig. 3), a feed vessel having an inlet in flow communication with a fly ash supply (22, fig. 3), a diverter in flow communication with an outlet of said feed vessel (33, fig. 3), a first combustion unit in flow communication with a first outlet of said diverter (1, fig. 3); and a second combustion unit in flow communication with a second outlet of said diverter (2, fig. 3), a collection unit in flow communication with said first combustion unit and said second combustion unit (36, 37, fig. 4), feeding fly ash to a diverter (33, fig. 3); diverting a first portion of the fly ash from the diverter to a first combustion unit (1, fig. 3), diverting a second portion of the fly ash from the diverter to a second combustion unit (2, fig. 3), combusting the first portion of fly ash in the first combustion unit, thereby reducing the carbon content of the first portion of fly ash (fig. 3) and combusting the second portion of the fly ash in the second combustion unit thereby reducing the carbon content of the second portion of fly ash (fig. 3), collecting combusted fly ash from the first and the second combustion units (36, 37, fig. 4), collecting the fly ash prior to diverting a first portion of the fly ash to the first combustion unit (22, fig. 3), collecting the fly ash prior to diverting the second portion of the fly ash to the second combustion unit (22, fig. 3), combustion of the first portion of the fly ash comprises feeding the fly ash into a fluidized bed (34, fig. 3), combusting the first portion of fly ash comprises conveying at least a portion of the combusted fly ash through the fluidized bed (34, fig. 3), wherein feeding fly ash to the diverter is substantially continuous (fig. 3), diverting a first batch of fly ash to a first processing unit (33, fig. 3), processing the first batch of fly ash in the first processing unit (1, fig. 3); diverting a second batch of fly ash to a second processing unit (33, fig. 3), processing the second batch of fly

Art Unit: 3749

ash in the second processing unit (2, fig. 3); and collecting the first and second processed batches of fly ash (36, 37, fig. 3), wherein the first processing unit and the second processing unit independently include at least a combustion unit (fig. 3), collecting the fly ash prior to diverting the first batch of fly ash (22, fig. 3), processing the first batch of fly ash comprises combusting the fly ash (fig. 3), diverting the first and second batches of fly ash is substantially continuous (fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP358085011 in view of Davies. JP358085011 discloses a fly ash feed source line (23, fig. 3); a diverter in flow communication with said feed line (33, fig. 3), said diverter including a first outlet in flow communication with a first combustion unit (34, fig. 3), and a second outlet in flow communication with a second combustion unit (35, fig. 3); and a collection vessel in flow communication with said first combustion unit and said second combustion unit (37, 36, fig. 3), said feed line is in flow communication with a feed vessel (22, fig. 3), a collection line in flow communication with said first combustion unit, said second combustion unit and said collection vessel (28, fig. 3), said first combustion unit comprises a circulating fluid bed combustor (fig. 3), said circulating fluid bed combustor further comprises a separator having an inlet in flow communication with an outlet of a reactor (30, fig. 3), said circulating fluid comprises an

Art Unit: 3749

accumulator in flow communication an outlet of said separator and with an inlet of said reactor (31, fig. 3), wherein said circulating fluid bed combustor comprises a fluidized bed disposed in said reactor and a heat source operably connected to said reactor (1, 24, fig. 1), said second combustion unit comprises a second circulating fluid bed combustor (2, fig. 3), a feed vessel having an inlet in flow communication with a fly ash supply (22, fig. 3), a diverter in flow communication with an outlet of said feed vessel (33, fig. 3), a first combustion unit in flow communication with a first outlet of said diverter (1, fig. 3); and a second combustion unit in flow communication with a second outlet of said diverter (2, fig. 3), said first combustion unit comprises a circulating fluid bed combustor (fig. 3),. JP358085011 discloses applicant's invention substantially as claimed with the exception of said fluidized bed comprises particles selected from sand, alumina, silica, inert oxides and combinations thereof. Davies teaches said fluidized bed comprises particles selected from sand, alumina, silica, inert oxides and combinations thereof (col. 6, lines 38-45) for the purpose of improving heat transfer. It would have been obvious to one of ordinary skill in the art to modify JP358085011 by including said fluidized bed comprises particles selected from sand, alumina, silica, inert oxides and combinations thereof as taught by Davies for the purpose of improving heat transfer so that the incinerator operates more efficiently.

Claims 6, 15, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP358085011 in view of Perrone. JP358085011 discloses a fly ash feed source line (23, fig. 3); a diverter in flow communication with said feed line (33, fig. 3), said diverter including a first outlet in flow communication with a first combustion unit (34, fig. 3), and a second outlet in flow communication with a second combustion unit (35, fig. 3); and a collection vessel in flow

Art Unit: 3749

communication with said first combustion unit and said second combustion unit (37, 36, fig. 3), a feed vessel having an inlet in flow communication with a fly ash supply (22, fig. 3), a diverter in flow communication with an outlet of said feed vessel (33, fig. 3), a first combustion unit in flow communication with a first outlet of said diverter (1, fig. 3); and a second combustion unit in flow communication with a second outlet of said diverter (2, fig. 3), feeding fly ash to a diverter (33, fig. 3); diverting a first portion of the fly ash from the diverter to a first combustion unit (1, fig. 3), diverting a second portion of the fly ash from the diverter to a second combustion unit (2, fig. 3), combusting the first portion of fly ash in the first combustion unit, thereby reducing the carbon content of the first portion of fly ash (fig. 3). JP358085011 discloses applicant's invention substantially as claimed with the exception of a controller operably connected to said fly ash feed vessel or diverter, wherein said controller comprises a timer, selecting the first portion of the fly ash prior to diverting the first portion to the ..., diverting the first portion of the fly ash comprises diverting fly ash to the ... for a pre-determined time period to obtain the first portion of the fly ash. Perrone teaches a controller operably connected to said fly ash feed source, wherein said controller comprises a timer (col. 2, lines 61-67) for the purpose of improving the efficiency of the system. It would have been obvious to one of ordinary skill in the art to modify jp358085011 by including a controller operably connected to said fly ash feed source, wherein said controller comprises a timer as taught by Perrone for the purpose of improving the efficiency of the system. Perrone teaches selecting the first portion of the fly ash prior to diverting the first portion to the ... (fig. 1), diverting the first portion of the fly ash comprises diverting fly ash to the ... for a pre-determined time period to obtain the first portion of the fly ash, a controller operably connected to said diverter, wherein said controller comprises a timer

Art Unit: 3749

(fig. 1, fig. 2, col. 2, lines 61-67), for the purpose of providing for a more efficient system that reduces gate valve deterioration. It would have been obvious to one of ordinary skill in the art to modify JP358085011 by including selecting the first portion of the fly ash prior to diverting the first portion to the ..., diverting the first portion of the fly ash comprises diverting fly ash to the ... for a pre-determined time period to obtain the first portion of the fly ash, as taught by Perrone for the purpose of providing for a more efficient system that reduces gate valve deterioration and thus reduces maintenance costs.

Allowable Subject Matter

Claim 33 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 3749

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B Rinehart whose telephone number is 571-272-4881.

The examiner can normally be reached on 7:20 -4:20.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kbr


KENNETH RINEHART
PRIMARY EXAMINER